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Disposable elasticized panty and method

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"DISPOSABLE ELASTICIZED PANTY AND METHOD"

The present invention relates to an elasticized disposable panty and to a method of making an elasticized disposable panty.

- In the past elasticized diapers have been
5. developed for use only with contoured shaped configurations such as an hour-glass shape such as that disclosed in the United States Patent to Buell, No. 3,860,003, issued 14th January, 1975, for "Contractable Side Portions for Disposable Diaper"
10. wherein elastic strips are secured to the crotch portions of the diaper to provide elasticized crotch seals for securement over the legs of the infant to prevent loss of fluid from the interior of the diaper along the legs of the infant.
15. Elasticized waistbands are common in panties but are not easily capable of being mass produced for use in elasticized diapers because of manufacturing difficulties. Further, contoured diapers are difficult and expensive to manufacture.
20. Therefore specialized and complicated production equipment is necessitated to contour a diaper and to provide an elasticized waistband for the diaper. Further, diapers so manufactured still require tape fasteners or other securing devices
25. for holding the diaper on the infant or incontinent adult, and require time and technique or skill to assure even a reasonably secure fit.

- The present invention overcomes the disadvantages of prior elasticized diapers by overcoming
30. manufacturing difficulties, reducing fastening

problems, providing for both waist and leg seals, and providing for an inexpensive disposable elasticized panty which does not require elaborate cutting for contouring, and which is comfortable to the
5. wearer.

In accordance with the present invention a disposable panty comprises a pair of panty panels in side by side relationship to each other, contraction means, e.g. elasticized strips, in parallel relation-
10. ship to each other being provided along parallel edges of the said panels, the edges being a pair of adjacent bottom edges and a pair of remotely disposed top edges, an adsorbent pad located transverse to the said contraction means extending
15. between the said panels and overlying the said contraction means along the bottom edges of the panels, and in cooperation therewith forming crotch seals, the contraction means along the top edges forming a waistband for the panty, the panels being
20. attached to each other at side edges transverse to the top and bottom edges. The elasticized panty is thus easily produced from a two panel configuration wherein one panel is folded over the other and the side edges bonded together. Each panel is thus
25. provided with two elasticized strips parallel to each other at the edges transverse to the said side edges for forming a waistband and leg seals. the absorbent pad is preferably bonded to the panels and extends between the panels transverse to the elasti-
30. cized strips and may thus form the crotch of the panty. Two separate panels can be used or they can be integral with each other and slit to form leg holes.

The invention also extends to a blank for making up into a disposable panty comprising a pair of panty panels in side by side relationship to each other, elasticized strips in parallel relationship to each other bonded to the said panels along parallel edges of the said panels, the edges being a pair of adjacent bottom edges and a pair of remotely disposed top edges and an absorbent pad located transverse to the said elasticized strips and extending between the said panels.

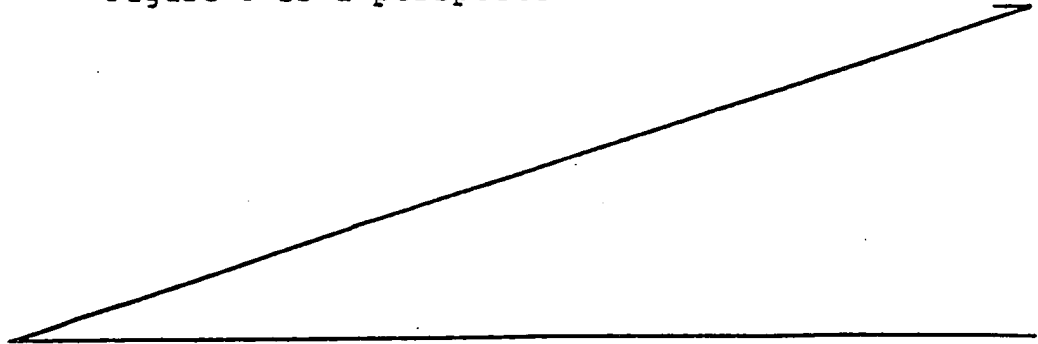
The invention may be put into practice in various ways and one specific embodiment will be described to illustrate the invention by way of example with reference to the accompanying drawings, in which:

Figure 1 is a plan view of a pair of panels with parts broken away for a clear showing of the structure of a disposable panty in accordance with the invention during an intermediate stage of the manufacture thereof.

Figure 2 is an elevational view of the complete panty; and

Figure 3 is a perspective view of the elasti-

25.



cized disposable panty of Figures 1 and 2.

In the accompanying drawings like reference numerals designate similar parts throughout the various views. The reference numeral 10 generally designates a panty shown in Figure 1 in an intermediate stage of manufacture.

The panty 10 includes a pair of panels 12 and 14 preferably formed of a non-woven hydrophobic material formed of polyethylene and/or polypropylene fibres. In an alternate embodiment the panels can be made from a fluid impervious sheet material such as polyethylene or polypropylene film. The panels 12 and 14 are arranged parallel to each other so that the adjacent edges 16 and 18 will be at the bottom (the bottom edges) and the spaced edges 20 and 22 will be at the top (the top edges) of the panty after manufacture.

Elasticized strips 24 and 26 are preferably adhesively bonded to the panels 12 and 14 adjacent the top edges 20 and 22 and extend the full length of the panel to the side edges 30, 32 and 34, 36 respectively.

Elasticized strips 38 and 40 are bonded preferably by adhesive to the panels 12 and 14 adjacent the bottom edges 16 and 18.

An absorbent pad 50 having a backing sheet 52 of water impervious material such as a plastics film of polyethylene or polypropylene, a wood fluff absorbent layer 54, and a top sheet 56 of non-woven fibre forming a hydrophobic body contacting sheet

made from fibres of polyethylene or polypropylene is provided. The absorbent pad 50 is disposed transverse to the panels 12 and 14 and extends therebetween across the bottom edges 16 and 18 and is preferably bonded to the panels 12 and 14. The pad 50 overlies the bottom elasticized strips 38, 40.

In order to assemble the panty one of the panels 12 or 14 is folded over into overlying relationship with respect to the other panel, the absorbent pad 50 also being folded over, the side edges 30 and 34 and the side edges 32 and 36 are brought into juxtaposition and are respectively bonded together forming the sides of the panty. The elasticized strips 24 and 26 form a waistband. In conjunction with the pad 50 the leg openings are provided with elasticized seals formed by the strips 38 and 40.

The panels 12 and 14 can be provided as separate pieces of material or as a simple unitary piece of material, in which case the panels are slit to form leg openings along the line of the edges 16 to 18 from the side edges to the pad either prior to folding or simultaneously with the sealing of the side edges either by heat sealing or adhesive bonding.

It will be appreciated that the elastic strips are adhered to the sheets whilst appropriately extended so that after the bonding the composite has the desired degree of extensibility and retractability necessary to provide the sealing function.

CLAIMS

1. A disposable panty comprising a pair of panty panels in side by side relationship to each other, contraction means, e.g. elasticized strips, in parallel relationship to each other being
5. provided along parallel edges of the said panels, the edges being a pair of adjacent bottom edges and a pair of remotely disposed top edges, an adsorbent pad located transverse to the said contraction means extending between the said panels and overlying the
10. said contraction means along the bottom edges of the panels, and in cooperation therewith forming crotch seals, the contraction means along the top edges forming a waistband for the panty, the panels being attached to each other at side edges transverse to
15. the top and bottom edges.
2. A disposable panty as claimed in Claim 1 in which the said elasticized strips are adhesively bonded to the said panels
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3. A disposable panty as claimed in Claim 1 or Claim 2 in which the said panels are bonded together at the said side edges.
25. 4. A disposable panty as claimed in Claim 1, 2 or 3 in which the said absorbent pad is adhesively bonded to the said panels.
30. 5. A disposable panty as claimed in Claim 1, 2, 3 or 4 in which the said panels are integral with each other, there being slits between the said absorbent pad and the said side edges forming leg openings along the bottom edge of the panty.

6.

6. A disposable panty as claimed in Claim 1, 2, 3 or 4 in which the said panels are separate from each other and define leg openings between the said side edges and the said absorbent pad.

5.

7. A disposable panty as claimed in any one of Claims 1 to 6 in which the said absorbent pad includes a backing sheet adjacent the said panels, absorbent material on the said backing sheet, and
10. non-woven material overlying the said absorbent material.

8. A disposable panty as claimed in any one of Claims 1 to 7 in which the said panels are of
15. water impervious material.

9. A disposable panty as claimed in any one of Claims 1 to 7 in which the said panels are of non-woven material.

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10. A disposable panty as claimed in Claim 1 substantially as specifically described herein with reference to the accompanying drawings.

25. 11. A process of making a disposable panty comprising the steps of providing a pair of panty panels in side by side relationship to each other, bonding four elasticized strips in parallel relationship to each other along parallel edges of the
30. said panels, disposing an absorbent pad transverse

to the said elasticized strips and extending between the said panels, folding one panel into overlying relationship to the other and bonding together the side edges transverse to the said elasticized strips.

5.

12. A process as claimed in Claim 11 in which the said side edges are heat sealed to each other.

10.

13. A process as claimed in Claim 11 in which the said side edges are adhesively secured to each other.

14. A process as claimed in Claim 11, 12 or 13 in which the said panels are integral with each other, the said panels being cut, severed or slit to form leg openings.

15.

15. A process as claimed in Claim 14 in which the panels are slit to form leg openings prior to folding.

20.

16. A process as claimed in Claim 14 in which the said panels are cut, severed or slit to form leg openings simultaneously with the bonding of the said side edges.

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17. A process as claimed in Claim 11 substantially as specifically described herein with reference to the accompanying drawings.

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18. A disposable panty whenever made by a process as claimed in any one of Claims 11 to 17.

5. 19. A blank for making up into a disposable panty comprising a pair of panty panels in side by side relationship to each other, elasticized strips in parallel relationship to each other bonded to the said panels along parallel edges of the said panels, the edges being a pair of adjacent
10. bottom edges and a pair of remotely disposed top edges and an absorbent pad located transverse to the said elasticized strips and extending between the said panels.

15. 20. A blank as claimed in Claim 19 in which the said panels are integral with each other.

20. 21. A blank as claimed in Claim 20 in which the said panels are integral with each other, there being slits between the said absorbent pad and the said side edges to afford leg openings along the bottom edge of the assembled panty.

25. 22. A blank as claimed in Claim 19 in which the said panels are separate from each other and define leg openings between the said side edges and the said absorbent pad.

30. 23. A blank as claimed in Claim 22 in which the said panels are joined to each other by the pad which is secured to both panels.

24. A blank as claimed in any one of Claims 19 to 23 in which the said absorbent pad overlies the said elasticized strips along the said bottom edges and is adhesively bonded to the said panels.
- 5.
25. A blank as claimed in any one of Claims 19 to 24 in which the said elasticized strips are adhesively bonded to the said panels.
- 10.
26. A blank as claimed in any one of Claims 19 to 25 in which the said panels are of water impervious material.
- 15.
27. A disposable panty as claimed in any one of Claims 19 to 25 in which the said panels are of non-woven material.
- 20.
28. A blank as claimed in any one of Claims 19 to 27 in which the said absorbent pad includes a backing sheet adjacent the said panels, absorbent material on the said backing sheet, and non-woven material overlying the said absorbent material.
- 25.
29. A blank as claimed in Claim 19 substantially as specifically described herein with reference to Figure 1 of the accompanying drawings.
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